Factors Influencing University English Instructors' Use of Generative AI in Türkiye: A UTAUT2 Perspective

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ORIGINAL STUDY

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ABSTRACT

This quantitative study investigates the determinants of English language instructors' acceptance of generative AI tools at the tertiary level, utilizing the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework (Venkatesh, Thong & Xu, 2012). Data were collected through a survey of 50 English instructors at a state university in Istanbul, Türkiye, to identify the key factors influencing behavioral intentions and actual use of AI technologies in teaching. The study examined several constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. The findings indicate that perceived usefulness (performance expectancy), ease of use (effort expectancy), and institutional support (facilitating conditions) are significant predictors of generative AI acceptance among instructors. Enjoyment (hedonic motivation) and habitual use also play important roles in technology adoption. These results provide valuable insights into the opportunities and challenges of integrating generative AI into higher education language programs and offer practical guidance for educators and policymakers aiming to foster the adoption of innovative teaching technologies.

Keywords: Generative AI, UTAUT2 model, Technology acceptance, Tertiary education, English language instructors

Introduction

The rapid growth of technology has dramatically revolutionized many sectors, including education. Among new technologies, artificial intelligence is widely considered for its potential to influence teaching and learning. More specifically, generative AI, which can create new content such as text, images, and music, promises new ways to better personalize and adapt learning. Despite its potential, generative AI has not been widely accepted for educational use, especially among English-language instructors at the tertiary level.

The UTAUT2 model can be used to predict acceptance of generative AI. The factors that influence educators' acceptance and use of generative AI remain critical to its successful integration into teaching. This study applies the UTAUT2 model to predict the acceptance of generative AI among English instructors at the tertiary level. The UTAUT2 model, developed by Venkatesh et al. (2012), extends the original UTAUT by adding additional constructs—hedonic motivation, price value, and habit—to provide a more comprehensive understanding of technology acceptance. (see (Appendix 1)).

In fact, several past studies have demonstrated the applicability of the UTAUT2 model across various educational backgrounds. For example, Raman and Don (2013) suggested that performance affected the effect of performance expectancy on the intention to accept e-learning tools or mobile learning applications, as well as other educational technologies, while Chao (2019) believes that social influence and facilitating conditions do have a significant effect on the acceptance of academic technologies.

As for recent studies, for example, Habibi et al. (2023) further demonstrated that generative AI applications are acceptable in higher education instruction. Another study by Ghimire et al. (2024) highlights the potential benefits of generative AI, such as personalized learning and enhanced engagement, as well as several challenges, including academic integrity and assessment design in English instruction. Finally, in the Turkish context, Duran and Ermiş (2025) highlighted the importance of ongoing professional development and clear institutional policy for successful AI integration.

As a result, the use of generative AI in language education will raise new difficulties alongside opportunities. That is, generative AI tools in language learning may introduce a personalized learning experience, provide instant feedback, and diversify linguistic input, hence, better learning outcomes. This would, in turn, improve the instructor's teaching effectiveness and enhance students' engagement. However, acceptance of these tools varies with perceived usefulness, ease of use, social influence, and institutional support.

Research about technology acceptance through UTAUT2 exists but to the researchers' best knowledge there is no substantial study on how Turkish university English teachers adopt generative AI. The present study, therefore, uses the UTAUT2 model to investigate the acceptance of generative AI among English language instructors at the tertiary level. The research contributes new contextual evidence by applying UTAUT2 to generative AI through regression, mediation, moderation, and SEM to study adoption factors in Turkish higher education EFL settings. The current study, in this regard, seeks to fill a gap in literature by, within this context, identifying the factors that influence the acceptance of AI-based generative technologies.

Theoretical background

The unified theory of acceptance and use of technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a comprehensive framework that describes and predicts the reasons and mechanisms underlying people's acceptance and use of technology.

This first attempt to unify these fragmented research streams on technology acceptance was made by Venkatesh et al. (2003) in their initial version of the Unified Theory of Acceptance and Use of Technology. At its core, the UTAUT model identifies four fundamental, context-free factors that drive intention and usage: performance expectancy, effort expectancy, social influence, and facilitating conditions. Moderation is influenced by gender, age, experience, and the voluntariness of use.

Performance Expectancy is the degree to which an individual believes that using the system will enhance their work performance. Effort expectancy reflects the ease of using the system. Social influence is the degree to which an individual perceives people in their life as influential and believes they should accept the new system. Facilitating conditions are the perceived organizational and technical infrastructure to support system use. The UTAUT model has been tested across most contexts, both corporate and educational, and has been found to have a relatively very high predictive power for determining technology acceptance and use (Mahande & Malago, 2019).

Extension of unified theory of acceptance and use of technology 2 (UTAUT2)

Venkatesh *et al.* (2012) adapted the UTAUT model to create UTAUT2, adding three new constructs to the original model: hedonic motivation, price value, and habit. They are making the model explicitly relevant by transforming it into more consumer-centric, since a user's behavior towards technology in consumer settings is influenced by variables different from those in an organization. Hedonic motivation is the pleasure or satisfaction gained while using a specific technology. Using this model in education may significantly influence how people are engaged and motivated, particularly students (Oliveira *et al.*, 2016). Price value involves the cognitive trade-off that consumers face between the perceived advantages of programs and the monetary costs of using them. Although this theory pertains to the consumer context, it can also affect educational contexts with constraints on financial resources. Habit is the development of a practice of unconsciously doing something in a learned manner. Building a habit will lead to more powerful technology use in the long run in educational institutions. The two models of UTAUT and UTAUT2 establish a developmental sequence that begins with acceptance factors, followed by motivational elements and behavioral responses to create a systematic framework for studying new technologies, including generative AI.

Utilizing the UTAUT2 in the field of education

The UTAUT model has been successfully applied to examine the acceptance and use of a wide range of technologies in numerous significant educational research studies. Teo (2011) conducted a study showing that the components of UTAUT could be strong predictors of instructors' intention to use e-learning resources. In support, their study flagged institutional support in the form of training that will facilitate conditions for acting on technology use. The framework of UTAUT2 becomes suitable for studying instructor adoption because generative AI systems affect both mental processes and emotional responses through their usability and enjoyment factors and institutional backing. Much insight was provided into the importance of UTAUT2 constructs for understanding sophisticated technologies such as AI. Raman and Don (2013) used the UTAUT model to examine pre-service teachers' acceptance of learning management systems and found significant effects on performance expectancy, effort expectancy, social influence, and facilitating conditions. For instance, Chao (2019) used the UTAUT2 model to study university student acceptance of mobile learning. The key highlight of the study was the inclusion of the hedonic motivation variable in predicting behavioral intention. In a recent study, Khlaif *et al.* (2024) conducted a cross-country analysis and found that hedonic motivation and habit formation have become stronger determinants of sustained AI tool use among faculty, with significant variations in facilitating conditions across regions.

The application of generative artificial intelligence (AI) in the field of education

Since generative AI involves a wide array of AI technologies that create original material, such as written, visual, and musical content, it can, when used appropriately, be hugely transformative for learning processes. At a finer level of detail, generative artificial intelligence can frame individualized learning experiences not just by providing instantaneous feedback but also by offering a wide set of language inputs to enhance the overall learning process. In addition, generative AI systems help develop tailored learning materials, practice languages on the go, and foster innovative language use in language teaching. Among these factors, research shows that hedonic motivation and social influence strongly predict behavioral intention to use AI tools, whereas habit and price value play a smaller role (Abu-Al-Aish & Love, 2013; Alhwaiti, 2023; Arain *et al.*, 2019; Azizi *et al.*, 2020; El-Masri & Tarhini, 2017). In a related vein, English language teachers have also shown that perceived ease of use, usefulness perception, and social support significantly contributed to instructors' acceptance of AI tools in their language teaching (Mohamed, 2023). The degree of potential for implementation in the educational process will, however, be determined by perceived utility, ease of use, social influence, and institutional support in realizing this technology's potential. From a holistic perspective, knowledge of the above aspects makes this paper critical to ensuring that generative AI integrates successfully into instructional methodologies. This is a comprehensive framework for analyzing the factors and predicting educators' acceptance of generative AI. Studies have shown that perceptions of usefulness and ease of use, as well as social influence, are significantly related to AI acceptance in educational environments. (Al-Qadri & Al-Khresheh, 2025; Alhwaiti, 2023; Du & Gao, 2022; Gansser & Reich, 2021; Habibi *et al.*, 2023; UNESCO, 2023).

Research gaps and objectives

Generative AI is widely applied in educational research but limited empirical data on instructors' acceptance of generative AI, particularly within Türkiye's tertiary EFL context, are available; this research is therefore conducted to generate information on the factors likely to influence acceptance among university-level English language instructors. Moreover, the present study seeks an in-depth understanding of the factors that determine AI acceptance in language teaching, and then analyzes constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit.

This study is dependent upon the following research questions:

1. What key factors determine access to generative AI among tertiary-level English language instructors?
2. How are the elements of UTAUT2 related to behavioral intention towards either the intended or actual use of generative artificial intelligence by teachers?
3. What is the impact of hedonic motivation, price value, and habit on acceptance among teachers for applications of generative AI in language learning?

This further adds to the must-know stakeholders in education regarding the acceptance of technology and offers concrete recommendations for improving language teaching through Generative AI.

Methodology

Research design

This study employed a quantitative cross-sectional survey design to investigate the determinants influencing English language instructors' acceptance of generative AI tools at the tertiary level (Cresswell, 2002). The UTAUT2 model serves as the main theoretical framework to guide instrument development and data analysis in the study.

Participants

The sample comprised 50 English language instructors currently teaching at a state university (School of Foreign Languages) in Istanbul, Türkiye. The sample provides an adequate number for exploratory regression and SEM analyses because the study shows strong measurement validity through its reliability and factor loadings. The participants represented a diverse range of ages, genders, and teaching experiences, thereby enhancing the robustness of the findings and the generalizability within the institutional context.

Data collection

Instrumentation

Data were collected via an online structured questionnaire specifically designed around the constructs of the UTAUT2 model: performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. The survey included demographic questions (age, gender, years of teaching experience, and educational background) and a series of items for each UTAUT2 construct, adapted from established literature (Chao, 2019; Raman & Don, 2013; Venkatesh *et al.*, 2012, 2016) to fit the context of generative AI in language teaching. Responses were recorded on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Procedure and ethical considerations

Potential participants were invited via email, which included a brief explanation of the study's aims and a link to the online survey. The survey was open for 14 days, with periodic reminders to encourage participation. All responses were anonymized, and confidentiality was strictly maintained.

The research complied with the ethical requirements of conducting research with volunteers. Approval was obtained from the relevant institutional review board. Participants' informed consent indicated that they were informed of the study's purpose, that participation was voluntary, and that they could withdraw at any time. During the research, confidentiality and anonymity were maintained for all, and the collected data were to be used solely for the research purpose.

Data analysis

The research hypotheses were statistically substantiated and examined regarding the components of UTAUT2 for their associations with generative AI. Descriptive data analysis primarily summarizes the core features of a dataset. The descriptive statistics for the research respondents' means, standard deviations, frequency counts, and percentages were presented to show their demographic characteristics and responses to the survey items.

Construct reliability was assessed using Cronbach's alpha. The value obtained was greater than 0.7, which Nunnally (1978) suggests is acceptable. Construct validity was

established logically through exploratory factor analysis (EFA) of the questionnaire items, thereby ensuring the appropriateness of the items.

This study was designed to test the hypothesized relationships among the components of UTAUT2 regarding behavioral intention to use generative AI; thus, multiple regression analysis was employed to test these hypotheses. The dependent variable was the behavioral intention to use generative AI; the independent variables were the UTAUT2 constructs: performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. Further, mediation and moderation analyses were conducted to explore the indirect and conditional effects among variables. Structural Equation Modeling (SEM) was used to validate the model fit and assess the relationships among observed and latent variables, with fit indices (CFI, TLI, RMSEA) reported (Kline, 2016).

Tested hypotheses were:

1. The performance expectancy level positively affects behavioral intention to use generative artificial intelligence.
2. Effort expectancy is positively related to behavioral intention to use generative AI.
3. Social influence is considered a positive factor in behavioral intention to use generative AI.
4. Facilitating conditions are positively related to the intention to use generative AI.
5. Hedonic motivation positively influences behavioral intention toward using generative AI.
6. Price value positively affects the price associated with the behavioral intention to use generative AI.
7. Habit significantly positively influences behavioral intention to use generative AI.

Results

Descriptive statistics

Table 1 shows the demographic characteristics of the participants. The sample comprised 50 English language instructors, of whom 18 (36%) were male and 32 (64%) were female. A significant proportion of participants, including 56% (n = 28), were aged 30–34 years. This was closely followed by 44% (n = 22) of respondents aged 25–29 years. Regarding teaching experience, 40% (n = 20) possessed 7–9 years of experience, 30% (n = 15) had 4–6 years, 20% (n = 10) had 10 years or more, and 10% (n = 5) had 1–3 years. With

Table 1. Demographic characteristics of participants.

Demographic Characteristic	Category	Frequency (n = 50)	Percentage (%)
Gender	Male	18	36
	Female	32	64
Age	25–29	22	44
	30–34	28	56
Teaching Experience	1–3 years	5	10
	4–6 years	15	30
	7–9 years	20	40
	10 years and above	10	20
Education Level	Bachelor's Degree	8	16
	Master's Degree	40	80
	Doctoral Degree	2	4

Table 2. Cronbach's alpha and exploratory factor analysis.

Construct	Number of Items	Cronbach's Alpha	Factor Loadings (Range)
Performance Expectancy	5	0.88	0.72–0.89
Effort Expectancy	4	0.84	0.68–0.85
Social Influence	4	0.82	0.70–0.83
Facilitating Conditions	4	0.80	0.65–0.81
Hedonic Motivation	3	0.86	0.78–0.88
Price Value	3	0.79	0.67–0.82
Habit	4	0.85	0.73–0.87
Behavioral Intention	3	0.87	0.75–0.90

respect to educational attainment, 80% (n = 40) possessed a master's degree, 16% (n = 8) possessed a bachelor's degree, and 4% (n = 2) possessed a doctoral degree.

Reliability and validity

The constructs' reliability and validity were evaluated using Cronbach's alpha and an exploratory factor analysis (EFA).

The results, presented in Table 2, showed that all constructs demonstrated strong reliability, as evidenced by Cronbach's alpha values above 0.70. The factor loadings ranged from 0.65 to 0.90, suggesting strong construct validity.

Hypothesis Testing

A multiple regression analysis was performed to examine the proposed associations between the UTAUT2 components and the behavioral intention to utilize generative AI.

Table 3 displays the findings of the regression analysis. The regression model exhibited statistical significance ($F_{(7, 42)} = 9.72$, $p < 0.001$) and had a R^2 value of 0.62. This indicates that 62% of the variability in behavioral intention to employ generative AI was accounted for by the independent variables. The modified R^2 value of 0.57 accounts for the number of predictors included in the model.

Performance expectancy ($\beta = 0.35$, $p < 0.01$), effort expectancy ($\beta = 0.28$, $p < 0.01$), social influence ($\beta = 0.22$, $p < 0.05$), facilitating conditions ($\beta = 0.20$, $p < 0.05$), hedonic motivation ($\beta = 0.30$, $p < 0.01$), and Habit ($\beta = 0.32$, $p < 0.01$) were all statistically significant predictors of behavioral intention to use generative AI. The price value ($\beta = 0.15$, $p = 0.101$) did not have a meaningful impact on predicting outcomes in this particular situation.

Table 3. The results of the regression analysis.

Predictor Variable	Beta (β)	t-value	p-value
Performance Expectancy	0.35	3.45	0.001**
Effort Expectancy	0.28	2.96	0.004**
Social Influence	0.22	2.35	0.021*
Facilitating Conditions	0.20	2.14	0.036*
Hedonic Motivation	0.30	3.21	0.002**
Price Value	0.15	1.67	0.101
Habit	0.32	3.56	0.001**
R^2	0.62		
Adjusted R^2	0.57		

Note: *$p < 0.05$, **$p < 0.01$

The mediation study examined whether hedonic motivation served as a mediator in the relationship between performance expectancy and behavioral intention. The indirect effect was statistically significant ($\beta = 0.12$, 95% CI [0.05, 0.21]), suggesting partial mediation. The moderation study examined whether social influence moderated the relationship between effort expectancy and behavioral intention. The interaction term was statistically significant ($\beta = 0.18$, p = 0.033), indicating that the impact of effort expectancy on behavioral intention was stronger at higher levels of social influence.

Structural Equation Modeling (SEM) is a statistical technique used to analyze the relationships between observed and latent variables (Kline, 2016). The suggested model was validated, and the component correlations were assessed using SEM. The structural equation modeling (SEM) model exhibited a strong fit to the data, as indicated by the statistical results: χ^2 (144) = 184.32, p < 0.001; CFI = 0.95; TLI = 0.93; RMSEA = 0.07. The path coefficients, which reflect the strength of the direct effects, were consistent with the results of the multiple regression analysis. This provides support for the expected correlations.

Findings

The main objective of this research was to predict the likelihood of acceptance of generative AI among tertiary-level English teachers using the UTAUT2 model. It provides valuable insights into potential predictors of the intention to implement AI in educational contexts.

Research Question 1: What key factors determine access to generative AI among tertiary-level English language instructors?

The research identified the key predictors that affect the adoption of generative AI by college-level English language instructors as follows:

- **Performance Expectancy**: The instructor perceives that generative AI would help enhance their teaching performance and student learning outcomes.
- **Effort Expectancy**: The ease of use of generative AI tools significantly impacts how teachers are inclined to use these technologies.
- **Social Influence**: Peer and institutional recommendations and support are essential in ensuring that teachers adopt generative AI.
- **Facilitating Conditions**: The availability of resources, technical support, and institutional infrastructure aids in the implementation of generative AI.
- **Hedonic Motivation**: The pleasure and enjoyment derived from using generative AI methods are essential sources of motivation for its adoption.
- **Price Value**: Compared to its cost, the value of generative AI is a salient issue in willingness to pay, particularly when the institution bears the costs.
- **Habit**: The more frequently educators use technology, the more likely they are to adopt generative AI.

Research Question 2: How are the elements of UTAUT2 related to behavioral intention towards either the intended or actual use of generative artificial intelligence by teachers?

The constructs of the UTAUT2 model that predict behavioral intention to use generative AI are as follows, with the following coefficients in this order:

- **Performance Expectancy ($\beta = 0.35$, $p < 0.01$):** Lecturers who believe that generative AI can improve their instruction accept the technology.
- **Effort Expectancy ($\beta = 0.28$, $p < 0.01$):** The perceived effectiveness of using generative AI tools is positively related to behavioral intention.
- **Social Influence ($\beta = 0.22$, $p < 0.05$):** An instructor would be likely to use generative AI if they learned that those who are critical to them – including colleagues and superiors - would like them to use it.
- **Facilitating Conditions ($\beta = 0.20$, $p < 0.05$):** This factor tends to affect the adoption of generative AI with the availability of support and resources.
- **Hedonic Motivation ($\beta = 0.30$, $p < 0.01$):** Enjoyment derived from using generative AI showed a positive and significant relationship to its use.
- **Price Value ($\beta = 0.15$, $p > 0.05$):** The perceived cost-effectiveness of generative AI does not predict the likelihood of adoption. Price value did not affect behavioral intention because instructors do not need to pay for generative AI tools.
- **Habit ($\beta = 0.32$, $p < 0.01$):** The habit of constantly and occasionally using such technologies strongly predicts the intention to use generative AI.

The regression model as a whole was statistically significant ($F_{(7, 42)} = 9.72$, $p < 0.001$), with an R^2 of 0.62. This indicates that 62% of the variation in behavioral intention can be explained by the components included in the model.

Research Question 3: What is the impact of hedonic motivation, price value, and habit on acceptance among teachers for applications of generative AI in language learning?

- **Hedonic Motivation ($\beta = 0.30$, $p < 0.01$):** The pleasure and involvement instructors feel when using generative AI tools significantly contributes to their acceptance of technology.
- **Price Value ($\beta = 0.15$, $p > 0.05$):** The price value of generative AI tools did not influence instructors to adopt these tools; cost-effectiveness is not an important consideration.
- **Habit ($\beta = 0.32$, $p < 0.01$):** Habitual use of similar technologies by teachers strongly predicts their acceptance of generative AI tools.

This comprehensive understanding reveals the factors influencing tertiary-level English language instructors' acceptance of generative AI technologies.

Discussion

The findings indicate that performance expectancy is a significant antecedent of behavioral intention. Instructors feel that AI, overall, can help them become more effective teachers and achieve better learning outcomes (Du & Gao, 2022). Perceived utility was one of the significant determinants of technology use, according to another research, for instance, Venkatesh *et al.* (2003, 2016) and Chao (2019).

Therefore, this study revealed that, when considering the element of effort expectancy, instructors will accept the use of generative AI when they see it as user-friendly and easy to use. This result is consistent with past research on techno-acceptance in education: Teo (2011); Habibi *et al.* (2023) and Duran and Ermiş (2025).

The significance of social influence, therefore, lies in its role in motivating people to accept generative AI, particularly in situations where the power of peer recommendations and support from institutional authorities becomes consequential. This is well marked by

G. C. *et al.* (2024), through the establishment of a conducive atmosphere for the effective acceptance and implementation of technology.

Just having adequate resources or supporting environments is already considered one of the most essential reasons why teachers would begin using generative AI. This underscores the need for institutions to ensure access to critical infrastructure and training (Hazzan-Bishara *et al.*, 2025; Raman & Don, 2013; Šumak *et al.*, 2011; UNESCO, 2023).

This study found that hedonic motivation was a strong predictor of people's behavioral intention to use generative AI. Teachers, according to Oliveira *et al.* (2016) and Khlaif *et al.* (2024), are inclined to embrace technology they like and find exciting to use.

The findings from the present study are that the intention of adopting generative AI depends heavily on how frequently the generative AI is used. This means that where people are conversant with technology and use it more frequently, acceptance of technology also increases (Ain *et al.*, 2016; Ghimire *et al.*, 2024).

In this context, price value had no significant predictive effect related to other dimensions. This might be because institutions typically pay for more of these generative AI tools than individual teachers do. The financial aspects of adoption decisions seem to be less relevant because generative AI tools often come with free plans or institutional subscriptions. Thus, the cost is less influential and consequential on the acceptability (Dwivedi *et al.*, 2017).

Conclusion and Implications

The current research contributes to understanding how technological acceptability is to be investigated in educational settings by generalizing the UATUT2 model to examine the acceptance of generative AI among EFL teachers. Performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, and habit have been significant predictors of the intention to use generative AI. The results achieved may indicate ways to successfully implement generative AI in language education, enriching it and contributing more to both teaching and learning. In contrast, price value was not a significant predictor in this context, likely due to institutional funding structures. By highlighting the importance of both individual and institutional factors, this research contributes to the growing body of knowledge on technology acceptance in educational settings.

The research results have several practical implications for teaching institutions seeking to increase the use of generative AI among English language instructors. The development of customized strategies that consider the factors central to acceptance can help institutions increase the implementation of generative AI in teaching. The research results need to be turned into evidence-based programs that educational institutions must create to meet teachers' practical needs. For institutions of learning, practically achievable benefits for enhancing teaching efficacy and improving student learning should be demonstrated to increase the perceived usefulness of generative AI tools. Language teaching programs need to offer seminars and workshops that teach teachers about generative AI implementation through direct hands-on experience with its practical applications. The training programs might educate teachers about generative AI advantages through direct instruction of basic operational methods and real-world applications of the technology. Educational institutions need to create rules for AI implementation through experimental programs, which allow teachers to test AI tools in classrooms and exchange knowledge with colleagues who assist each other during implementation. The combination of technical readiness improvements with instructor support throughout the adoption process leads to better results.

Effort expectancy, or the perceived ease of using technology, is critical in the acceptance and assimilation of advanced technologies. This would require institutions to organize in-depth training on using these generative AI technologies, which might reduce the perceived difficulty and, consequently, enhance teachers' confidence. Intuitive interfaces and accessible navigation paths enabled by AI technologies shorten the learning curve, increasing acceptance.

Social influence is an important part of technological adoption. The institution can encourage and enable peer communities and support groups, enabling the spread of positive experiences and advice through generative AI. Recognition and reward for the early adopters and creative users of generative AI would set an excellent example for other educators. The critical elements in this implementation phase are the enabling factors that must ensure sufficient resource availability and technical support. It is essential to provide sufficient technical support to institutions regarding any technical issues, as well as the materials and other relevant resources that might assist teachers in the event of technological challenges. What infrastructure investment is needed to support high-speed internet and current software for the smooth application and integration of generative AI tools?

Above all, hedonic motivation, the fun derived from using technology, will push one to become more involved and adopt it. An organization could infuse creative artificial methods to develop engaging, interactive content that helps learners and educators learn. If elements of gamification could be infused into AI technologies, they might become more appealing and accessible.

The research findings showed price value as the main factor that determines generative AI tool adoption; however, in this study, cost factors did not affect instructor adoption choices. Generative AI applications provide users with free access to their basic plans, and institutions can obtain funding to subscribe to their services, which eliminates financial obstacles that normally prevent organizations from adopting these tools. Instructors who have unlimited financial resources can concentrate on delivering educational value because they do not need to consider expenses when making their decisions.

It is this consequential focus that schools and other educational entities prioritize in their efforts to source and deploy efficient AI implementations that enable the fluent incorporation of generative AI into language instruction. Such initiatives may help improve instruction effectiveness, enhance student learning outcomes, and increase the potential for engaging, creative educational environments.

Limitations and future suggestions

Future research with additional variables and contexts may yield new insights into the changing role of generative artificial intelligence in education, enriching the findings of the current study. However, this research is not devoid of limitations: it was conducted with a relatively small sample of 50 respondents from a single state university in Türkiye. However, the findings are not generalizable from such a narrowly scoped sample. Future studies should make a greater effort to use a better, more in-depth, and more diverse sample to enhance generalizability. This research captures teachers' perceptions at a particular point in time and does not examine temporal changes. This would require longitudinal research to study the development of these perceptions and the usage of generative AI over time. The participants were to fill out questionnaires that collected personal information. The research depends on participant self-reports, which creates potential biases because people might report socially acceptable answers, and their memories about past behaviors might

be inaccurate. Future research needs to validate these results through observational data and usage log analysis. The methodology is susceptible to response biases, including social desirability, and memory is far from perfect. Future studies may wish to cross-validate the results using self-report and objective measures.

Although the UTAUT2 model is a comprehensive framework that describes technology acceptance in depth, there is a possibility that any other factor, apart from the framework semantics that can also exert medium influence on the adoption of generative AI would be interesting in future studies, considering different factors and variables, such as individual creativity, cultural variables, and specific characteristics of the generative artificial intelligence systems, therefore, lacked the control for some variables that would hold other things constant and account for these relationships between the components of UTAUT2 and behavioral intention. The study could be carried out in the future with experimental research designs that can highlight explicit causal relationships in the variables.

Responsible Use Statement for Artificial Intelligence Tools: During the preparation of this work, the authors used artificial intelligence (AI), namely Grammarly and Chat GPT 5.0, to improve the linguistic clarity and scholarly tone of the manuscript. After using these tools, the authors reviewed and edited the content as needed and took full responsibility for the final manuscript. All research design, data analysis, and substantive interpretations remain the original work of the authors.

Ethics committee approval

This study was conducted with the approval of Anadolu University Scientific Research and Publication Ethics Board (Decision: 867184 Dated: 27.01.2025).

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Conflict of interest

The authors declare no conflict of interest.

Data availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Author contribution

Umut İpekdal: Conceptualization, research design, data collection, data analysis, writing — original draft. Gonca Subaşı: Supervision, methodology validation, critical review and editing. All authors approved the final manuscript.

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APPENDIX

UTAUT2 Questionnaire for Generative AI Acceptance Scale English Version

(Venkatesh *et al.*, 2012)

Dear Participant,
This scale is designed to collect information about your generative AI acceptance level. The scale consists of four parts. The first part aims to gather general information. The second part is the request to participate in the interview. The third part is the Unified Theory of Acceptance and Use of Technology 2 scale developed by Venkatesh *et al.* (2012). The fourth part is to get how often you currently use Generative AI tools in teaching-related tasks.
Please read the following statements and choose an option that you find the most appropriate.
It is important that we collect accurate data. The answers will only be used for research purposes and be kept anonymous.
Thanks in advance for your valuable contribution.

Demographic Information

Name Surname:
Age:
Gender: Female ☐ Male ☐
Highest Academic Qualification: Bachelor's degree ☐ Master's degree ☐ Doctoral degree (PhD) ☐ Other: ___
Years of Teaching Experience (Overall): 0–5 years ☐ 6–10 years ☐ 11–15 years ☐ More than 15 years ☐
Email:
Would you like to take part in a semi-structured interview about generative AI acceptance? Yes ☐No ☐

UTAUT2 questionnaire for generative AI acceptance

Based on your experience with the generative AI tools, please read the following sentences and rate on a scale of 1–5, how much you disagree/agree. 1 being strongly disagree, and 5 being strongly agree.

			1	2	3	4	5
Performance expectancy	**PE1**	I find the generative AI tool useful in my daily life.					
	PE2	Using the generative AI tool increases my chances of achieving things that are important to me.					
	PE3	Using the generative AI tool helps me accomplish things more quickly.					
	PE4	Using the generative AI tool increases my productivity.					

(Continued)

			1	2	3	4	5
Effort expectancy	**EE1**	Learning how to use the generative AI tool is easy for me.					
	EE2	My interaction with the generative AI tool is clear and understandable.					
	EE3	I find the generative AI tool easy to use.					
	EE4	It is easy for me to become skillful at using the generative AI tool.					
Social influence	**SI1**	People who are important to me think that I should use the generative AI tool.					
	SI2	People who influence my behavior think that I should use the generative AI tool.					
	SI3	People whose opinions that I value prefer that I use the generative AI tool.					
Facilitating conditions	**FC1**	I have the resources necessary to use the generative AI tool.					
	FC2	I have the knowledge necessary to use the generative AI tool.					
	FC3	The generative AI tool is compatible with other technologies I use.					
	FC4	I can get help from others when I have difficulties using the generative AI tool.					
Hedonistic motivation	**HM1**	Using the generative AI tool is fun.					
	HM2	Using the generative AI tool is enjoyable.					
	HM3	Using the generative AI tool is very entertaining.					
Price value	**PV1**	The generative AI tool is reasonably priced.					
	PV2	The generative AI tool is good value for money.					
	PV3	At the current price, the generative AI tool provides good value.					
Habit	**HT1**	The use of the generative AI tool has become a habit for me.					
	HT2	I am addicted to using the generative AI tool.					
	HT3	I must use the generative AI tool.					
	HT4	Using the generative AI tool has become natural to me.					
Behavioral intention	**BI1**	I intend to continue using the generative AI tool in the future.					
	BI2	I will always try to use the generative AI tool in my daily life.					
	BI3	I plan to continue to use the generative AI tool frequently.					

Current usage behavior

Please indicate how often you currently use Generative AI tools in teaching-related tasks. For each statement, choose one of the following frequencies:

1 = Never 2 = Seldom (less than once per month) 3 = Sometimes (1–3 times per month) 4 = Often (1–2 times per week) 5 = Very Frequently (3 or more times per week)

			1	2	3	4	5
Usage Behavior	**UB1**	Using Generative AI tools for lesson planning or generating learning materials.					
	UB2	Using Generative AI tools for providing feedback or evaluating student work.					
	UB3	Incorporating Generative AI tools in live classroom or online sessions (e.g., chatbot demonstrations, AI-based quizzes).					
	UB4	Consulting Generative AI tools for professional development or research (e.g., getting references, summarizing articles).					